

Level of knowledge about colorectal cancer, risk factors, and preventive measures among users of a reference hospital in Paraguay

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ABSTRACT

Introduction: Colorectal cancer (CRC) is one of the cancers with the highest mortality rate in developing countries, constituting a public health problem that demands early diagnosis. The population's lack of awareness regarding its symptoms and risk factors is a critical barrier to prevention. **Aim:** To determine the level of knowledge about colon cancer, its clinical manifestations, risk factors, and preventive measures in users who attend the coloproctology service of the National Hospital of Itauguá. **Materials and methods:** An observational, descriptive, cross-sectional, and prospective study was conducted during October 2018. The non-probability convenience sample included 50 users of the coloproctology clinic. A structured survey was used to collect sociodemographic data and measure specific knowledge. The bioethical principles of confidentiality and autonomy were respected. **Results:** Fifty-four percent of the sample was male, with a predominant age range of 17 to 27 years (34%). Although 42% had a university education, their knowledge was suboptimal: only 58% correctly identified the affected organ, 48% recognized changes in bowel habits as symptoms, and misconceptions about risk factors persisted, such as attributing the disease to hemorrhoids (48%). No knowledge indicator reached the optimal level of 80%. **Conclusions:** There is a significant lack of information regarding colorectal cancer among the studied population. It is imperative to implement health education strategies to promote self-care and adherence to screening tests.

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INTRODUCTION

Colorectal cancer (CRC) has become one of the most impactful and deadly cancers globally, posing a substantial challenge to public health systems, especially in developing countries (1). The epidemiological burden of this neoplasm is exacerbated by Western lifestyles characterized by inadequate nutrition, sedentary behavior, and low fiber intake (2).

A particularly insidious characteristic of colon cancer is its lack of symptoms in early stages, which frequently delays medical consultation. Local studies in Paraguay have shown that an alarming proportion of patients (up to 94%) are diagnosed in advanced stages (III and IV), drastically limiting curative treatment options (3). Colorectal cancer prevention faces significant cultural and gender barriers; men often resist screening, while women tend to prioritize gynecological checkups, underestimating the digestive risk.

In Paraguay, colorectal cancer (CRC) has a high incidence. Recent data from the Pan American Health Organization (PAHO) indicate a mortality rate of 8.4 per 100,000 women, making it one of the leading causes of death from malignant tumors in the country (4). Although the incidence increases significantly after age 50, evidence suggests an increase in cases in younger cohorts, which has led to a review of international screening guidelines (5). However, when CRC is detected early, the chances of a cure are high, underscoring the vital importance of timely screening.

Public awareness of this condition is a key social determinant of health. Ignorance about warning signs—such as changes in bowel habits or rectal bleeding—and about modifiable risk factors hinders the adoption of self-care behaviors. Regional research suggests that, although screening programs exist in upper-middle-income countries in Latin America, coverage and public awareness remain unequal (6).

The overall objective of this research was to determine the level of knowledge that users who attend the coloproctology clinic of the National Hospital of Itauguá possess about colon cancer, identifying their notions about the affected anatomy, symptomatology, risk factors and prevention methods.

MATERIALS AND METHODS

Studio design

A quantitative, descriptive, cross-sectional, prospective observational study was conducted. The study took place at the National Hospital of Itauguá (HNI), a high-complexity referral institution under the Paraguayan Ministry of Public Health and Social Welfare, during October 2018.

Population and sample

The study population consisted of patients who attended the coloproctology service of the aforementioned hospital during the study period. A non-probability convenience sampling method was used. The final sample comprised 50 participants who met the inclusion criteria: being patients of the proctology clinic, being of legal age, and voluntarily agreeing to participate by signing the informed consent form.

Instruments and procedures

A structured questionnaire with closed-ended questions was designed and administered to collect the data. The instrument explored two main dimensions:

1. Sociodemographic data: Age, sex and level of education.
2. Level of knowledge: Specific questions about the anatomical location of the cancer, warning signs and symptoms, perceived risk factors, and

primary and secondary prevention measures (including knowledge about the guaiac test).

The procedure consisted of approaching patients individually in the waiting room of the office, where the purpose of the study was explained to them before handing over the self-administered questionnaire.

Ethical considerations

The research strictly adhered to universal ethical principles for studies involving human subjects, including the Declaration of Helsinki. Respect for the dignity of participants, autonomy through voluntary participation, data confidentiality through anonymous surveys, and fairness in sample selection were guaranteed.

RESULTS

Analysis of sociodemographic data revealed a broad age distribution, with participants ranging from 17 to 68 years old. When broken down by age groups, a predominance of young adults was observed: 34% were between 17 and 27 years old, followed by 30% between 28 and 38 years old. Older age groups represented a smaller proportion (4% for the 61-68 age group). Regarding gender distribution, there was a slight male majority, representing 54% (21/50) of the sample. Regarding educational level, the population demonstrated a considerably high level of instruction: 42% reported university studies and another 42% secondary education.

In regard to specific knowledge about the pathology, the first question asked was about the anatomical location of the disease. The results indicated confusion among a significant proportion of respondents: 12% incorrectly stated that it affects the stomach and 30% the small intestine. Only 58% of participants correctly identified colon cancer as a disease that impacts the large intestine.

Regarding warning signs, 48% of the population recognized changes in bowel habits (constipation, diarrhea) as the main signs. Meanwhile, 34% identified bleeding during bowel movements (rectal bleeding) as a symptom, and 18% reported difficulty defecating.

When assessing knowledge about risk factors, deeply ingrained misconceptions were observed. When asked what factors predispose individuals to the disease, 48% of respondents answered hemorrhoids, a popular belief lacking direct scientific evidence as a cause of cancer. 46% associated the risk simply with abdominal pain. This demonstrates that a large portion of the sample does not clearly identify validated risk factors such as diet and lifestyle.

Regarding preventative measures, 64% correctly stated that one should “take care of one’s diet and undergo testing.” Finally, knowledge of screening methods was assessed. 54% recognized that the guaiac test (fecal occult blood test) is a screening method, while 32% stated they did not know what it was, and 14% incorrectly considered it not to be a preventative measure.

DISCUSSION

The findings of this study highlight a considerable gap between the participants’ educational level and their health literacy, specifically regarding colorectal cancer. Although 84% of the sample had a secondary or university education, no knowledge indicator reached the established optimum level of 80%.

The lack of knowledge about the anatomy and risk factors is concerning. The mistaken belief that hemorrhoids cause cancer (held by 48% of the sample) can generate unnecessary anxiety. The scientific literature clearly establishes that modifiable risk factors include the consumption of processed meats, smoking, alcohol, and obesity (7, 8). It is essential to debunk these myths to focus prevention efforts on real lifestyle changes.

Our results are consistent with those reported in the regional literature on risk perception. Rodríguez Hernández et al. (9) highlight the importance of how the population perceives risk factors to adopt preventive behaviors. In our study, the lack of spontaneous association between unhealthy habits and colorectal cancer suggests an urgent need for educational campaigns.

Secondary prevention through screening is vital. International guidelines, such as those from the CDC and the Spanish Association of

Gastroenterology recommends fecal occult blood testing and colonoscopy starting at age 45-50 (10, 11). In our study, although 54% recognized the guaiac test, almost half of the population is unaware of this simple tool. This is critical in Paraguay, where previous studies have proven that the adenoma detection rate is an essential quality indicator and that diagnosis is often delayed (3, 12).

In conclusion, it is observed that a high percentage of the population is unaware of the fundamental aspects of colon cancer. These findings underscore the urgent need to implement ongoing health education programs focused on dispelling misconceptions and promoting timely screening, key elements for reducing mortality from this preventable disease.

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